RSW Series

RSW™ LED Street Luminaire – Medium

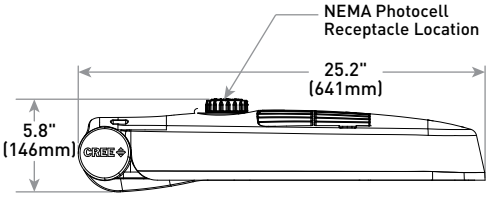
Product Description

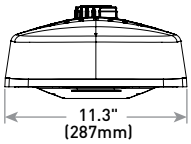
The Cree® RSW Series, utilizing WaveMax® Technology, will transform the way utilities and municipalities light their residential streets, interchanges, and expressways. With the first viable LED streetlight at warm CCT, the RSW Series delivers up to 124 LPW, enhanced visual comfort with reduced glare and high color contrast leading to improved overall illumination using less energy. The RSW Series provides warm, inviting dark sky friendly lighting that makes good economic sense.
Applications: Roadway

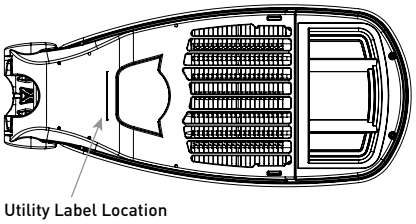
Performance Summary

Utilizes Cree WaveMax® Technology
Assembled in the U.S.A. of U.S. and imported parts
Efficacy: Up to 124 LPW
CRI: Minimum 70 CRI (3000K, 4000K & 5000K); 80 CRI (2700K, 3000K, 4000K & 5000K)
CCT: 2700K, 3000K, 4000K, 5000K
Limited Warranty†: 10 years

† See http://lighting.cree.com/warranty for warranty terms







Accessories

Field-Installed	
Backlight Control Shield RSW-BLSM - Provides 1 mounting height cutoff	**Bird Guard** RSW-BRDGRDM

Weight*
13.8 lbs (6.3kg)

*RSW-BLSM Accessory: add 0.4 lbs. (0.2kg)

Ordering Information

Example: RSWM-A-HT-2ME-9L-27K8-UL-GY-N

RSWM	A	HT		9L		UL	GY	N	
Product	**Version**	**Mounting**	**Optic**	**Lumen Package****	**CCT/CRI**	**Voltage**	**Color Options**	**Utility Label/Receptacle**	**Options**
RSWM Medium	**A**	**HT** Horizontal Tenon	**2LG*** Type II Long **2ME*** Type II Medium **3ME*** Type III Medium	**9L** 9,325 Lumens	**27K8** 2700K, 80 CRI **30K7** 3000K, 70 CRI **30K8** 3000K, 80 CRI **40K7** 4000K, 70CRI **40K8** 4000K, 80 CRI **50K7** 5000K, 70CRI **50K8** 5000K, 80CRI	**UL** Universal 120-277V	**GY** Grey	**N** **Utility Label and NEMA® 7-Pin Photocell Receptacle** - External wattage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others	**Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 Field Adjustable Lumen Output** - Must select Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 - Offers full range lumen adjustability - Includes wattage label for setting selected - Refer to pages 5 & 6 for power and lumen values **X7/X6/X5/X4/X3/X2/X1 Locked Lumen Output** - Must select X7, X6, X5, X4, X3, X2, or X1 - Lumen output is permanently locked to the setting selected - Includes wattage label for setting selected - Refer to pages 5 & 6 for power and lumen values

* Available with Backlight Shield when ordered with field-installed accessory (see table above)
** Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values

Rev. Date: V3 12/22/2017

US: lighting.cree.com T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

Product Specifications

CREE WAVEMAX® TECHNOLOGY

Featuring up to 90% optical efficiency and precise control, Cree WaveMax® Technology provides unmatched comfort and decreased LED source luminance by smoothly spreading brightness over a broader area. When integrated with luminous surfaces made of a polymer medium engineered with DiamondFacet™ optical elements, extremely high efficacy luminaires are the result – ultimately creating more visually comfortable and appealing environments while exceeding illumination performance.

CONSTRUCTION & MATERIALS

- Housing constructed of high strength, lightweight bulk molding compound for long weathering and durability
- UV stabilized polymeric door with handle pocket for tool-less entry
- Straight in wiring to terminal block for power input (#6-#14 AWG)
- IP66 rated optic box and driver enclosure inside optic box
- Mounts on 1.25" (32mm) IP, 1.66" (42mm) O.D. or 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5˚ in 2.5˚increments to allow for fixture leveling (two axis T-level included)
- Luminaire secures with two mounting bolts
- Comes standard with Utility Label per ANSI C136.15 and 7-pin NEMA® Photocell Receptacle per ANSI C136.41
- **Weight:** 13.8 lbs. (6.3kg); add 0.4 lbs. (0.2kg) for RSW-BLSM accessory

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **10V Source Current:** 0.25mA
- **Operating Temperature Range:** -40˚C - +50˚C (-40˚F - + 122˚F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards pending
- Meets CALTrans 611 Vibration testing pending
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- RoHS compliance pending. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 27K or 30K CCT
- DLC and DLC Premium qualified versions available. Please refer to https://www.designlights.org/search/ for most current information

Electrical Data*

Lumen Package	CCT/CRI	System Watts 120-277V	Utility Label Wattage	Efficacy	Total Current (A)			
					120V	208V	240V	277V
9L	27K8	93	90	98	0.83	0.48	0.43	0.38
	30K7	83	80	112	0.70	0.40	0.36	0.32
	30K8	93	90	100	0.78	0.45	0.40	0.35
	40K7	76	80	123	0.64	0.38	0.33	0.30
	40K8	85	90	110	0.71	0.41	0.37	0.33
	50K7	75	80	124	0.63	0.37	0.33	0.30
	50K8	78	80	120	0.66	0.38	0.34	0.30

* Electrical data at 25˚C (77˚F). Actual wattage may differ by +/- 10% when operating between 120-277V +/- 10%

Recommended RSW Series Lumen Maintenance Factors (LMF)[1]

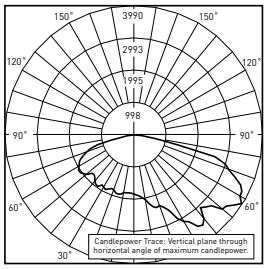
Ambient	Initial LMF	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Projected[2] LMF	100K hr Calculated[3] LMF
0˚C (32˚F)	1.05	1.04	1.04	1.03	1.03
5˚C (41˚F)	1.04	1.03	1.03	1.02	1.02
10˚C (50˚F)	1.03	1.02	1.02	1.02	1.01
15˚C (59˚F)	1.02	1.01	1.01	1.01	1.00
20˚C (68˚F)	1.01	1.00	1.00	1.00	0.99
25˚C (77˚F)	1.00	0.99	0.99	0.99	0.99

[1] Lumen maintenance values at 4000K and 25˚C (77˚F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing
[2] In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ([DUT] i.e. the packaged LED chip)
[3] In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ([DUT] i.e. the packaged LED chip)

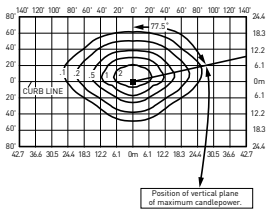
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: http://lighting.cree.com/products/outdoor/street-and-roadway/rsw-series

2LG



CESTL Test Report #: 11683107.08
RSWM-A-**-2LG-9L-30K7-UL-GY-N
Initial Delivered Lumens: 9,285

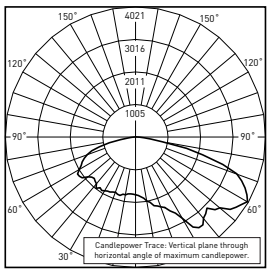


RSWM-A-**-2LG-9L-30K7-UL-GY-N
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 9,325
Initial FC at grade

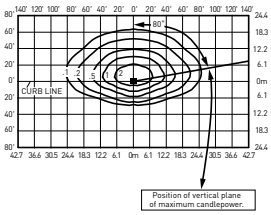
Type II Long Distribution

Lumen Package	CRI	2700K		3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
9L	All	9,125	B2 U0 G2	9,325	B2 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf. Valid with no tilt



CESTL Test Report #: 11705478-02
RSWM-A-**-2LG-9L-30K7-UL-GY-N
w/RSW-BLSS
Initial Delivered Lumens: 8,466



RSWM-A-**-2LG-9L-30K7-UL-GY-N
w/RSW-BLSS
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 8,550
Initial FC at grade

Type II Long w/BLS Distribution

Lumen Package	CRI	2700K		3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
9L	All	8,375	B2 U0 G2	8,550	B2 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
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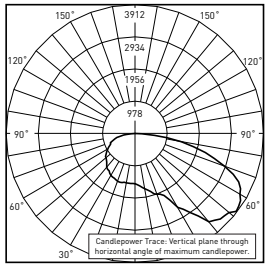
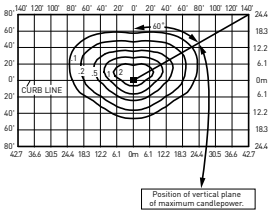
2ME



CESTL Test Report #: 11683107.07
RSWM-A-**-2ME-9L-30K7-UL-GY-N
Initial Delivered Lumens: 9,093

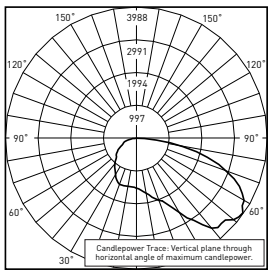


RSWM-A-**-2ME-9L-30K7-UL-GY-N
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 9,325
Initial FC at grade

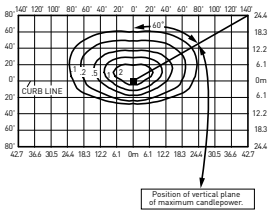
Type II Medium Distribution

Lumen Package	CRI	2700K		3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
9L	All	9,125	B2 U0 G2	9,325	B2 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf. Valid with no tilt



CESTL Test Report #: 11705478.01
RSWM-A-**-2ME-9L-30K7-UL-GY-N
w/RSW-BLSM
Initial Delivered Lumens: 8,383



RSWM-A-**-2ME-9L-30K7-UL-GY-N
w/RSW-BLSM
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 8,550
Initial FC at grade

Type II Medium w/BLS Distribution

Lumen Package	CRI	2700K		3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
9L	All	8,375	B2 U0 G3	8,550	B2 U0 G3

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
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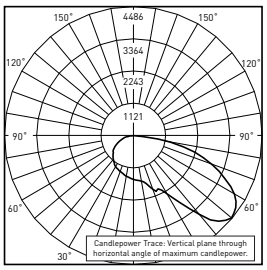
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: http://lighting.cree.com/products/outdoor/street-and-roadway/rsw-series

3ME



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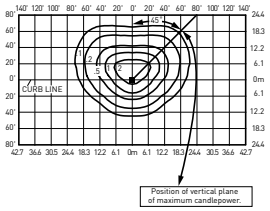
RSWM-A-**-3ME-9L-30K7-UL-GY-N
Initial Delivered Lumens: 9,275



RSWM-A-**-3ME-9L-30K7-UL-GY-N
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 9,325
Initial FC at grade

Type III Medium Distribution

Lumen Package	CRI	2700K		3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
9L	All	9,125	B2 U0 G2	9,325	B2 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
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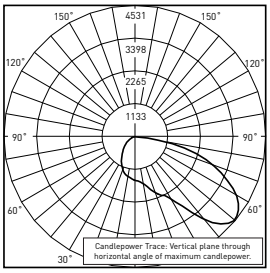
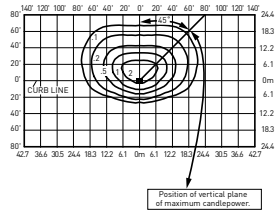


CESTL Test Report #: 11705478.03
RSWM-A**-3ME-9L-30K7-UL-GY-N w/RSW-BLSM
Initial Delivered Lumens: 8,532



RSWM-A-**-3ME-9L-30K7-UL-GY-N w/RSW-BLSM
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 8,550
Initial FC at grade

Type III Medium w/BLS Distribution

Lumen Package	CRI	2700K		3000K/4000K/5000K	
		Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
9L	All	8,375	B1 U1 G2	8,550	B2 U1 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf. Valid with no tilt

Luminaire EPA

Horizontal Tenon Mount – Weight: 13.8 lbs. (6.3kg); RSW-BLSM Accessory: add 0.4 lbs. (0.2kg)					
Luminaire	Single	2 @ 90°	2 @ 180°	3 @ 90°	4 @ 90°
Tenon Configuration If used with Cree tenons, please add tenon EPA with luminaire EPA					
	 PD-1H4; PT-1H	 PD-2H4(90); PT-2H(90)	 PD-2H4(180); PT-2H(180)	 PD-3H4(90); PT-3H(90)	 PD-4H4(90); PT-4H(90)
Standard Luminiare	0.86	1.24	1.71	2.10	2.49
Luminiare w/RSW-BLSM Accessory	0.86	1.59	1.71	2.45	3.19

Tenon EPA

Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-2L	0.13
XA-TMDA8	0.19

Tenons and Brackets* (must specify color)

Square Internal Mount Horizontal Tenons (Aluminum)
- Mounts to 4" (102mm) square aluminum or steel poles
PD-1H4 – Single
PD-2H4(90) – 90° Twin
PD-2H4(180) – 180° Twin
PD-3H4(90) – 90° Triple
PD-4H4(90) – 90° Quad

Wall Mount Brackets
- Mounts to wall or roof
WM-2L – Extended Horizontal

Round External Mount Horizontal Tenons (Aluminum)
- Mounts to 2.375"-3" (60-76mm) O.D. round aluminum or steel poles or tenons
PT-1H – Single
PT-2H(90) – 90° Twin
PT-2H(180) – 180° Twin
PT-3H(90) – 90° Triple
PT-4H(90) – 90° Quad

Direct Arm Pole Adaptor Bracket
- Mounts to 3-6" (76-152mm) round or square aluminum or steel poles
XA-TMDA8

* Refer to the Bracket and Tenons spec sheet for more details

Field Adjustable Output (Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1) Option Description:

The Field Adjustable Output option enables the street and area luminaire within the RSW Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment. When ordered with the Q option, the luminaire will be shipped from the factory at the selected lumen output, will be fully adjustable between the outputs, and will include a wattage label that indicates the wattage of the luminaire at the selected lumen output.

Locked Lumen Output (X7/X6/X5/X4/X3/X2/X1) Option Description:

The Locked Lumen Output option on this page permanently locks the lumen output on the RSW Series street and area luminaire to the setting selected. When ordered with the X option, the luminaire will be shipped from the factory at the lumen output setting selected, and will include a wattage label that indicates the wattage of the setting selected. When this option is selected, the luminaire output is not able to be adjusted in the field.

Q & X Option Power & Lumen Data – 9L

Q Option Setting	X Option Setting	CCT/CRI	System Watts	Label Wattage	Lumen Values		Optics Qualified on DLC QPL	
			120-277V		2LG, 2ME & 3ME	w/BLS	Standard	Premium
Q8 (Full Power)	N/A (Full Power)	27K8	93	90	9,125	8,375	2LG, 2ME, 3ME	
		30K7	83	80	9,325	8,550		2LG, 2ME, 3ME
		30K8	93	90			2LG, 2ME, 3ME	
		40K7	76	80				2LG, 2ME, 3ME
		40K8	85	90			2LG, 2ME, 3ME	
		50K7	75	80				2LG, 2ME, 3ME
		50K8	78	80				2LG, 2ME, 3ME
Q7	X7	27K8	90	90	8,900	8,175	2LG, 2ME, 3ME	
		30K7	81	80	9,100	8,350		2LG, 2ME, 3ME
		30K8	90	90			2LG, 2ME, 3ME	
		40K7	74	70				2LG, 2ME, 3ME
		40K8	82	80			2LG, 2ME, 3ME	
		50K7	73	70				2LG, 2ME, 3ME
		50K8	77	80				2LG, 2ME, 3ME
Q6	X6	27K8	84	80	8,775	8,050	2LG, 2ME, 3ME	
		30K7	74	70	8,975	8,225		2LG, 2ME, 3ME
		30K8	84	80			2LG, 2ME, 3ME	
		40K7	70	70				2LG, 2ME, 3ME
		40K8	76	80			2LG, 2ME, 3ME	
		50K7	69	70				2LG, 2ME, 3ME
		50K8	73	70				2LG, 2ME, 3ME
Q5	X5	27K8	80	80	8,150	7,475	2LG, 2ME, 3ME	
		30K7	69	70	8,325	7,650		2LG, 2ME, 3ME
		30K8	80	80			2LG, 2ME, 3ME	
		40K7	65	70				2LG, 2ME, 3ME
		40K8	71	70			2LG, 2ME, 3ME	
		50K7	64	60				2LG, 2ME, 3ME
		50K8	65	70				2LG, 2ME, 3ME

Field Adjustable Output (Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1) Option Description:

The Field Adjustable Output option enables the street and area luminaire within the RSW Series on this page to be tuned to the exact needs of a particular application through multiple levels of adjustment. When ordered with the Q option, the luminaire will be shipped from the factory at the selected lumen output, will be fully adjustable between the outputs, and will include a wattage label that indicates the wattage of the luminaire at the selected lumen output.

Locked Lumen Output (X7/X6/X5/X4/X3/X2/X1) Option Description:

The Locked Lumen Output option on this page permanently locks the lumen output on the RSW Series street and area luminaire to the setting selected. When ordered with the X option, the luminaire will be shipped from the factory at the lumen output setting selected, and will include a wattage label that indicates the wattage of the setting selected. When this option is selected, the luminaire output is not able to be adjusted in the field.

Q & X Option Power & Lumen Data – 9L

Q Option Setting	X Option Setting	CCT/CRI	System Watts	Label Wattage	Lumen Values		Optics Qualified on DLC QPL	
			120-277V		2LG, 2ME & 3ME	w/BLS	Standard	Premium
Q4	X4	27K8	75	80	7,575	6,950	2LG, 2ME, 3ME	
		30K7	65	70	7,750	7,100		2LG, 2ME, 3ME
		30K8	75	80			2LG, 2ME, 3ME	
		40K7	60	60				2LG, 2ME, 3ME
		40K8	67	70			2LG, 2ME, 3ME	
		50K7	60	60				2LG, 2ME, 3ME
		50K8	61	60				2LG, 2ME, 3ME
Q3	X3	27K8	71	70	7,150	6,550	2LG, 2ME, 3ME	
		30K7	62	60	7,300	6,700		2LG, 2ME, 3ME
		30K8	71	70			2LG, 2ME, 3ME	
		40K7	58	60				2LG, 2ME, 3ME
		40K8	64	60			2LG, 2ME, 3ME	
		50K7	57	60				2LG, 2ME, 3ME
		50K8	58	60				2LG, 2ME, 3ME
Q2	X2	27K8	67	70	6,825	6,275	2LG, 2ME, 3ME	
		30K7	60	60	7,000	6,400		2LG, 2ME, 3ME
		30K8	67	70			2LG, 2ME, 3ME	
		40K7	55	60				2LG, 2ME, 3ME
		40K8	61	60			2LG, 2ME, 3ME	
		50K7	54	50				2LG, 2ME, 3ME
		50K8	56	60				2LG, 2ME, 3ME
Q1	X1	27K8	56	60	6,350	5,825	2LG, 2ME, 3ME	
		30K7	50	50	6,500	5,950		2LG, 2ME, 3ME
		30K8	56	60			2LG, 2ME, 3ME	
		40K7	47	50				2LG, 2ME, 3ME
		40K8	51	50			2LG, 2ME, 3ME	
		50K7	46	50				2LG, 2ME, 3ME
		50K8	47	50				2LG, 2ME, 3ME

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